



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

5094330

RB877206-5
Job Sheet 181076



Part No: RB877206-5

Job Qty: 1 ea

Part Name: Swashplate Bearing Cutter



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 7/20/18

Job Tracking No:

Due Date: 7/31/18

Created By: Linda Lacelle

Type: SOLD

Description:

Note: DWG RB877206-5 REV 4A IPP REV A 18.02.21 NEW ISSUE FK VERIFY DP

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		7/31/18	0.00	0.00	Start Up Small Fab-2		
110	Small Fab	1 pcs		7/31/18	0.00	1.00	Small Fab-3		
120	QC	1 pcs		7/31/18	0.00	0.00	QC5		MLC
130	Packaging	1 pcs		7/31/18	0.00	0.00	Packaging3-1		SB
140	QC21-FG	1 Ea		7/31/18	0.00	0.00	QC21		GA140

Part Op 110 - 1-Assemble as per DWG. Sheet 1.
Descriptions: 130 - Bag and Tag

21 AUG 01 2018
9-89

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
RB877206-18	Fitting Bearing Cutter	1 (1 ea)	90-Start up Operation	3028907

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	RB877206-18	1	0	0

Part Specifications

Specifications could not be found.

Plex 7/20/18 8:53 AM dart.lacelle.linda

- Pull from stock RB877206-18
- Disassemble - remove & discard spring RB877206-9
 - Bag & tag w/ New PIN
 - Reassemble

QA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



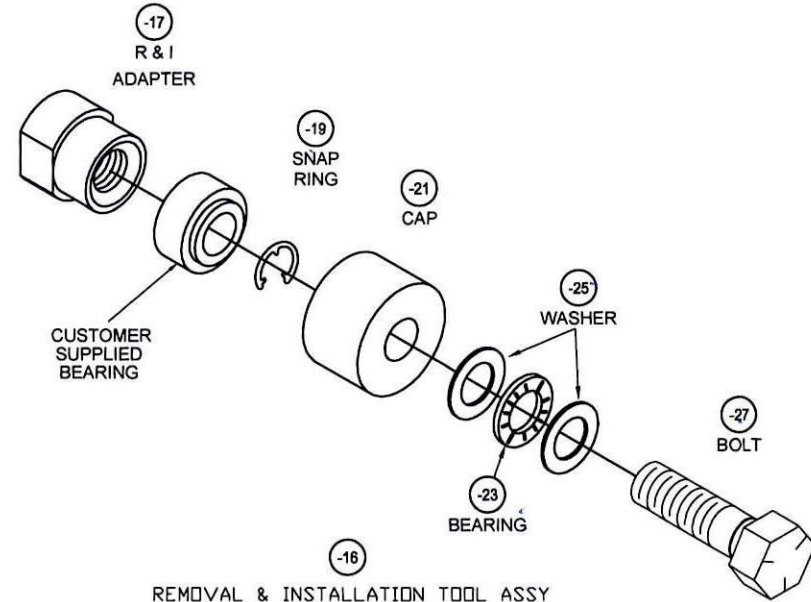
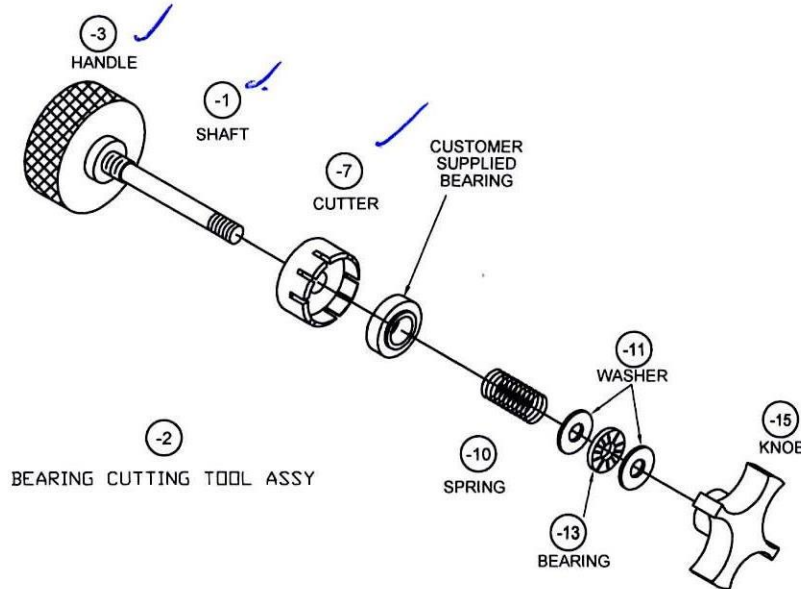
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coor. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		 Container No: S094330 Part: RB87206-5 Job No: 181076 Serial No/Batch: S094330 Date: 07/30/18 Revision: 4A Inspector: Exp Date: Instructions: ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center	
OTHER : _____					

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REVISIONS				
REV	DESCRIPTION	DATE	INITIAL	APPROVED
1	-7 RADIAL ANGLE INCREASED FROM 2° TO 5° TO IMPROVE OPERATION.	2/19/04		
2	CH'D -7 PREGRIND TOLERANCE FROM .953.	1/2/08	WP	G.E.
3	ADDED AN 8" HOOK TO CUTTING TEETH, WAS STRAIGHT WITH NO HOOK.	1/29/08	WP	DW
4	CH'D -27 GROOVE NOMENCLATURE FROM .032 W x .025 DP.	1/29/08	WP	GE
4A	CH'D TITLEBLOCK & REVISION BLOCK, CORRECTED VIEWS & LABELED ALL SECTION VIEWS, ADDED DETAIL A P/N -1 TO CLARIFY TAPER.	9/29/09	RJC	RW



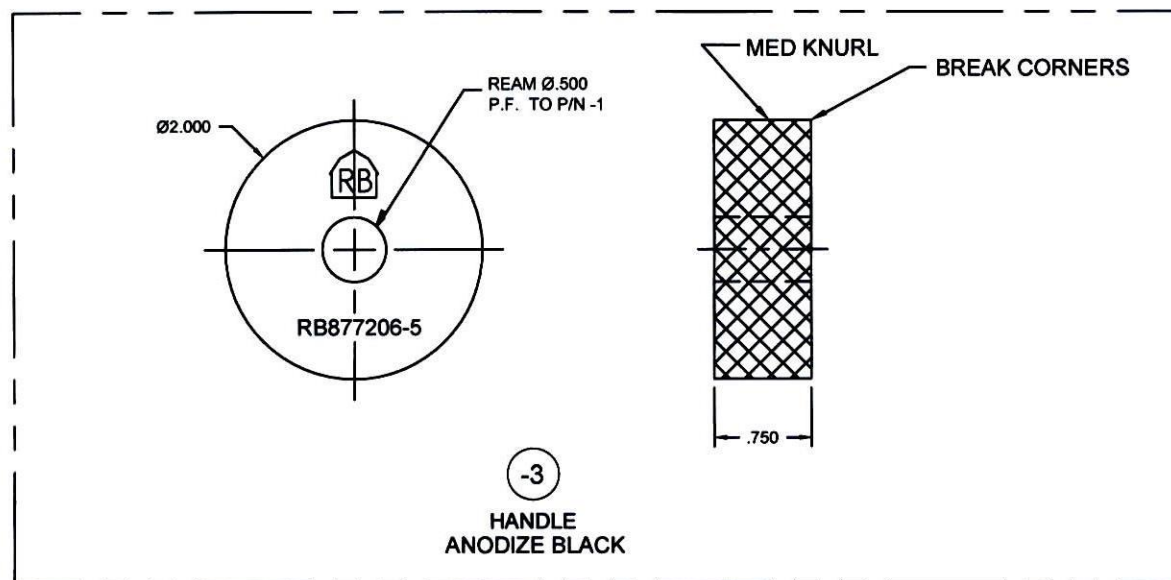
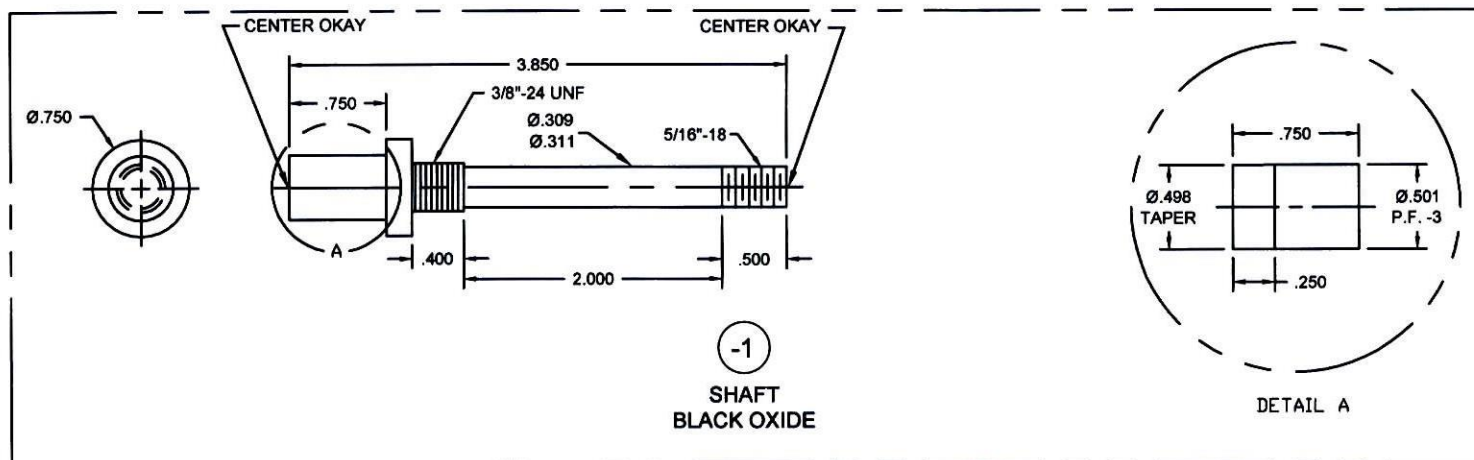
NOTE:
BEARING #206-010-469-001, 206-010-470-001, ASTRO AM2004DHS

ASSY QTY	ASSY QTY	B/O	PART #	UNIT QTY	DESCRIPTION	MATERIAL	B/O INFORMATION OR SPECIFICATIONS	Pg.
	1		-1		SHAFT	STRESS PROOF	Ø3/4 x 4	2
	1		-2	1	BEARING CUTTER TOOL ASSY			1
	1		-3		HANDLE	6061 T6	Ø2 x 3/4	2
	1		-7		CUTTER	01	Ø1 x 5/8	3
	1	B/O	-10		SPRING		5/16 x 2 (EUGENE FASTNER #16)	1
	2	B/O	-11		WASHER		TRA-512 (APPLIED INDUSTRIAL)	1
	1	B/O	-13		BEARING		NTA512 (APPLIED INDUSTRIAL)	1
	1	B/O	-15		KNOB		DK-55 (REID TOOL)	1
	1		-16	1	REMOVAL & INSTALLATION TOOL ASSY			1
	1		-17		R&I ADAPTER	STRESS PROOF	Ø1-1/4 x 1-1/4	4
	1	B/O	-19		SNAP RING		Ø5/16 EXTERNAL	1
	1		-21		CAP	6061 T6	Ø1-1/2 x 1	4
	1	B/O	-23		BEARING		NTA512 (APPLIED INDUSTRIAL)	1
	2	B/O	-25		WASHER		TRA-512 (APPLIED INDUSTRIAL)	1
	1		-27		BOLT	GRADE 5	5/16-24 UNF x 3 MODIFY	4
ASSY QTY	ASSY QTY							
-16	-2							

RED BARN MACHINE TITLE BEARING CUTTER		REV	4A
		DWG NO. RB877206-5	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: DECIMALS .XX ± .005 FRACTIONS ± 1/32 ANGLES ± 5° X ± .1		DRAWN BY: COLE APPROVED: <i>D. Wed</i> HEAT TREAT: _____ FINISH SPEC: _____	
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING		USED ON MODEL BELL	
SCALE	NTS	DATE	6-28-01
		SHEET	1 of 4

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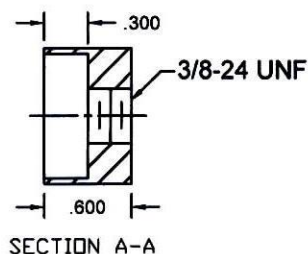
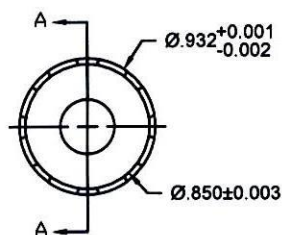
REVISIONS			
REV	DESCRIPTION	DATE	INITIAL
4A	CH'D TITLEBLOCK & REVISION BLOCK, CORRECTED VIEWS & LABELED ALL SECTION VIEWS, ADDED DETAIL A P/N -1 TO CLARIFY TAPER.	9/29/09	RJC
			RW



RED BARN MACHINE	
TITLE BEARING CUTTER	
DWG NO. RB877206-5-1 & -3	REV 4A
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
TOLERANCES ON: DECIMALS .XXX ± .005 XX ± .01 X ± .1	
FRACTIONS ± 1/32 ANGLES ± 5°	
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE NTS	DATE 6-28-01
SHEET 2 of 4	USED ON MODEL BELL
DRAWN BY: COLE	APPROVED: <i>D. Hill</i>
HEAT	TREAT
FINISH	SPEC

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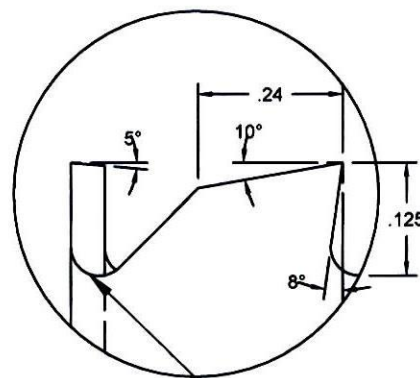
REVISIONS			
REV	DESCRIPTION	DATE	INITIAL APPROVED
1	-7 RADIAL ANGLE INCREASED FROM 2° TO 5° TO IMPROVE OPERATION.	2/19/04	
2	CH'D -7 PREGRIND TOLERANCE FROM .953.	1/2/08	WP G.E.
3	ADDED AN 8° HOOK TO CUTTING TEETH, WAS STRAIGHT WITH NO HOOK.	1/29/08	WP DW



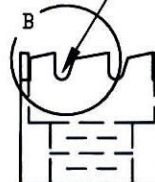
-7

CUTTER
8 TEETH
HEAT TREAT: 50-60 Rc
NO COATING

MACHINE TO .952
GRIND TO SIZE
AFTER HEAT TREAT



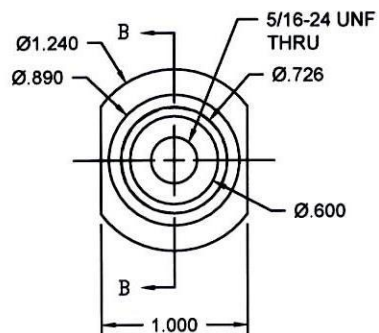
DETAIL B
ROUND
GULLET
OKAY



RED BARN MACHINE TITLE BEARING CUTTER		REV 4A	
		DWG NO. RB877206-5-7	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: DECIMALS .XXX ± .005 .XX ± .01 .X ± .1		DRAWN BY: COLE APPROVED: <i>D. Wood</i> HEAT TREAT FINISH SPEC	
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING		USED ON MODEL BELL	
SCALE NTS	DATE 6-28-01	SHEET 3 of 4	

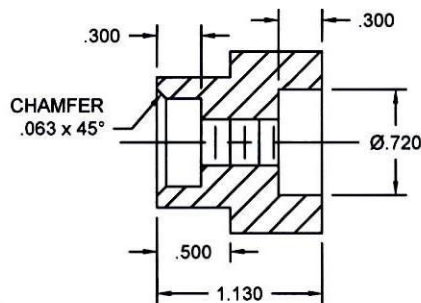
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REVISIONS			
REV	DESCRIPTION	DATE	INITIAL / APPROVED
4	CH'D -27 GROOVE NOMENCLATURE FROM .032 W x .025 DP.	2/5/08	WP GE

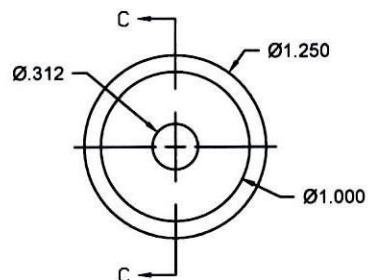


-17

ADAPTER R&I
BLACK OXIDE

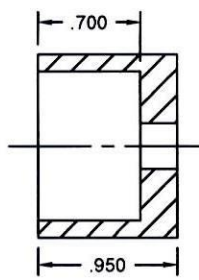


SECTION B-B

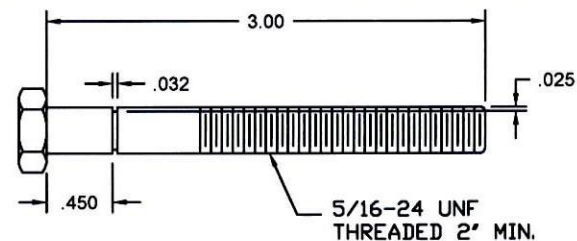


-21

CAP
ANODIZE BLACK



SECTION C-C



-27

BOLT
BLACK OXIDE

RED BARN MACHINE	
TITLE BEARING CUTTER	
DWG NO. RB877206-5-17 thru -27	REV 4A
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
TOLERANCES ON: DECIMALS .XXX ± .005 .XX ± .01 .X ± .1	
FRACTIONS ± 1/32 ANGLES ± 5°	
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE NTS	DATE 6-28-01
DRAWN BY: COLE APPROVED: D. Wed HEAT TREAT: BELL FINISH SPEC: BELL USED ON MODEL: BELL	
SHEET 4 of 4	



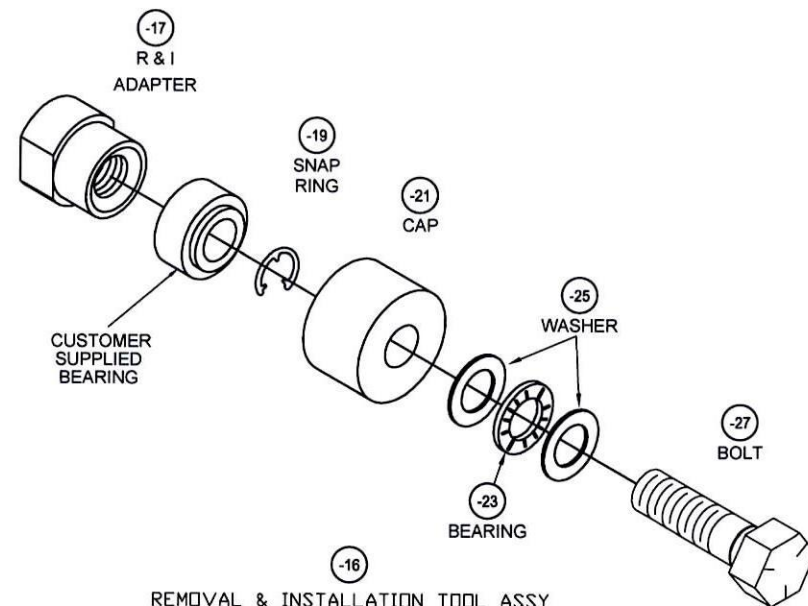
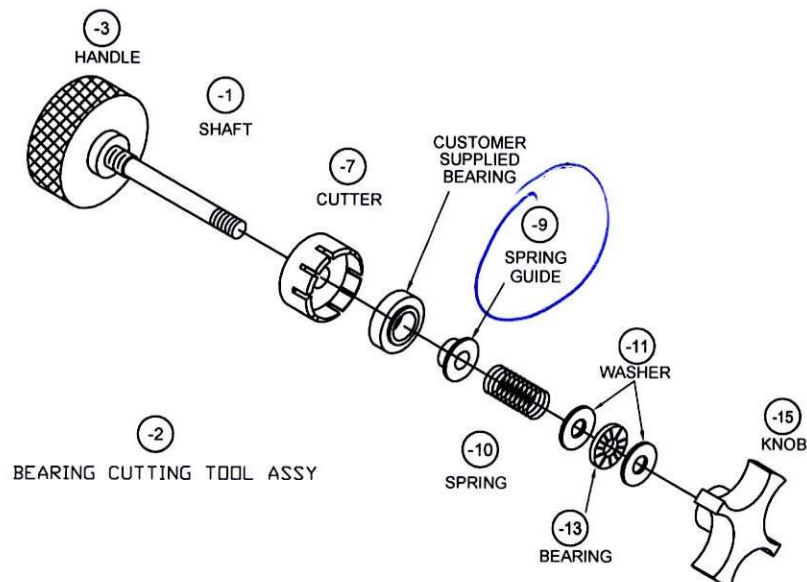
ASSTY QTY	BO	PART #	QTY	DESCRIPTION	MATERIAL	B/O INFORMATION OR SPECIFICATIONS		P
		-1	1	RND	6061	Ø8-1/4 x 3-7/8		2
ASSTY #								

 RED BARN MACHINE			
TITLE			

DWG NO.			REV
---			---
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: DECIMALS .XXX ± .005 .XX ± .01 .X ± .01 FRACTIONS ± 1/32 ANGLES ± .5°		DRAWN BY PERRITT APPROVED REY TRAT INCH SICK USED ON MODEL	
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 ± .007 DIA R 2. DIMENSION LINES APPLY AFTER PLATING			
SCALE	NTS	DATE	SHEET
		8-15-07	1 of 1

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REVISIONS			
REV	DESCRIPTION	DATE	INITIAL APPROVED
1	-7 RADIAL ANGLE INCREASED FROM 2° TO 5° TO IMPROVE OPERATION.	2/19/04	
2	CH'D -27 GROOVE FOR RETAINING RING.	9/21/06	
3	CH'D -7 PREGRIND TOLERANCE FROM .940 +.005 -.002.	1/2/08	WP G.E.
4	ADDED AN 8" HOOK TO CUTTING TEETH, WAS STRAIGHT WITH NO HOOK.	1/29/08	WP DW
4A	CH'D TITLEBLOCK & REVISION BLOCK, CORRECTED VIEWS & LABELED ALL SECTION VIEWS, ADDED DETAIL A P/N -1 TO CLARIFY TAPER.	9/29/09	RJC RW



NOTE:
BEARING #206-031-594-003, ASTRO NHW7V203 J/N 39034-2 AD

ASSY QTY	ASSY QTY	B/O	PART #	UNIT QTY	DESCRIPTION	MATERIAL	B/O INFORMATION OR SPECIFICATIONS	Pg.
	1		-1		SHAFT	STRESS PROOF	Ø3/4 x 4	2
	1		-2	1	BEARING CUTTER TOOL ASSY			1
	1		-3		HANDLE	6061 T6	Ø2 x 3/4	2
	1		-7		CUTTER	01	Ø1 x 5/8	3
	1		-9		SPRING GUIDE	STRESS PROOF	Ø5/8 x 5/16	3
	1	B/O	-10		SPRING	-	5/16 x 2 (EUGENE FASTNER #16)	1
	2	B/O	-11		WASHER	-	TRA-411 (APPLIED INDUSTRIAL)	1
	1	B/O	-13		BEARING	-	NTA-411 (APPLIED INDUSTRIAL)	1
	1	B/O	-15		KNOB	-	DK-54 (REID TOOL)	1
	1		-16	1	REMOVAL & INSTALLATION TOOL ASSY			1
	1		-17		R&I ADAPTER	STRESS PROOF	Ø1 x 1-1/4	4
	1	B/O	-19		RETAINING RING	-	Ø3/8 EXTERNAL E-37	1
	1		-21		CAP	6061 T6	Ø1-1/4 x 1	4
	1	B/O	-23		BEARING	-	NTA-613 (APPLIED INDUSTRIAL)	1
	2	B/O	-25		WASHER	-	TRA-613 (APPLIED INDUSTRIAL)	1
	1		-27		BOLT	GRADE 5	7/16-20 UNF x 2-1/2 MODIFY	4

ASSY QTY
-16 -2

RED BARN MACHINE

TITLE
BEARING CUTTER

DWG NO. RB877206-18

REV
4A

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES

TOLERANCES ON:
DECIMALS
.XXX ± .005
.XX ± .01
.X ± .1
FRACTIONS ± 1/32
ANGLES ± 5°

UNLESS OTHERWISE SPECIFIED
1. BREAK ALL SHARP EDGES
Ø15 x 45° PR .015 R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING

SCALE NTS

DATE 6-28-01

SHEET 1 of 4

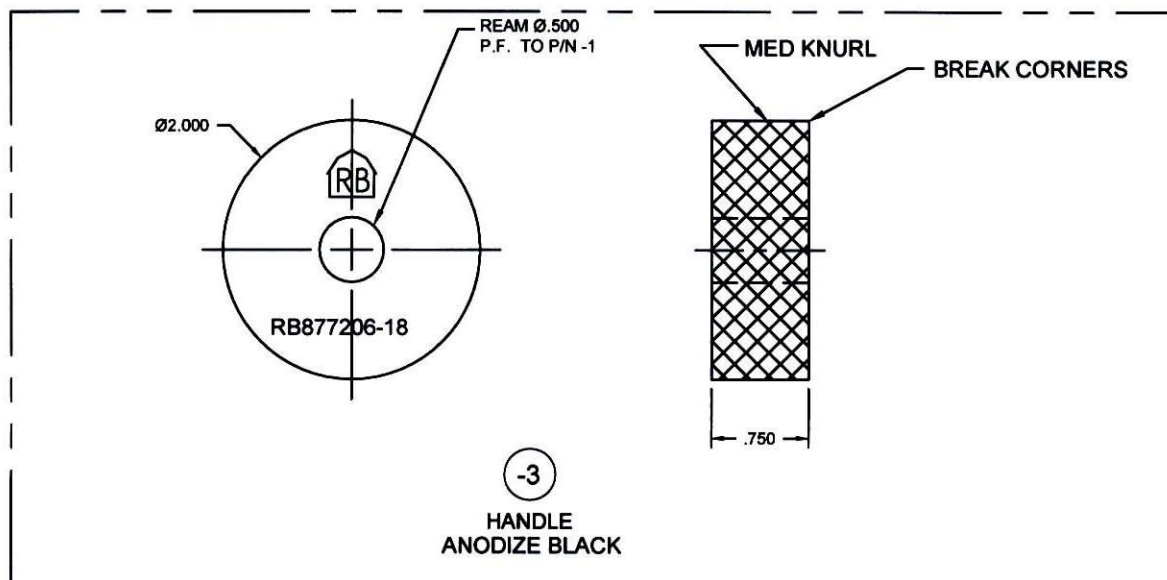
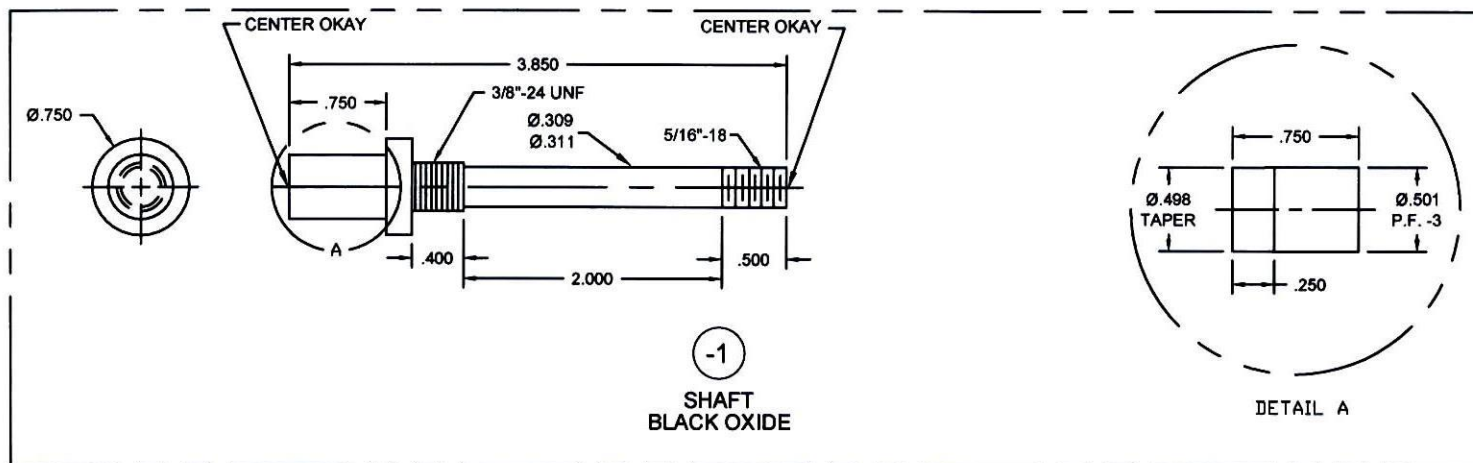
DRAWN BY: COLE
APPROVED
HEAT
TREAT
FINISH
SPEC

USED ON MODEL

BELL

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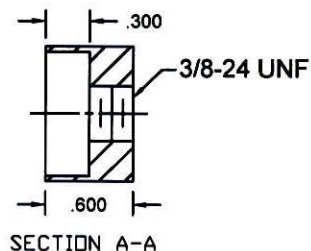
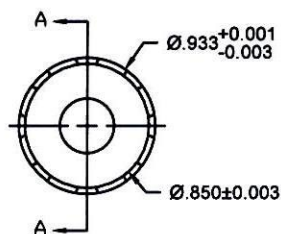
REVISIONS			
REV	DESCRIPTION	DATE	INITIAL
4A	CH'D TITLEBLOCK & REVISION BLOCK, CORRECTED VIEWS & LABELED ALL SECTION VIEWS, ADDED DETAIL A P/N -1 TO CLARIFY TAPER.	9/29/09	RJC



RED BARN MACHINE	
TITLE	
BEARING CUTTER	
DWG NO.	REV
RB877206-18-1 & -3	4A
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
TOLERANCES ON:	
DECIMALS	FRACTIONS $\pm 1/32$
.XXX $\pm .005$	ANGLES $\pm 5^\circ$
.XX $\pm .01$	
.X $\pm .1$	
UNLESS OTHERWISE SPECIFIED	
1. BREAK ALL SHARP EDGES	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE	DATE
NTS	6-28-01
SHEET 2 of 4	

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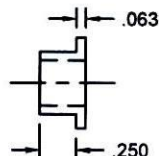
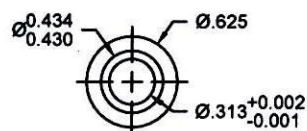
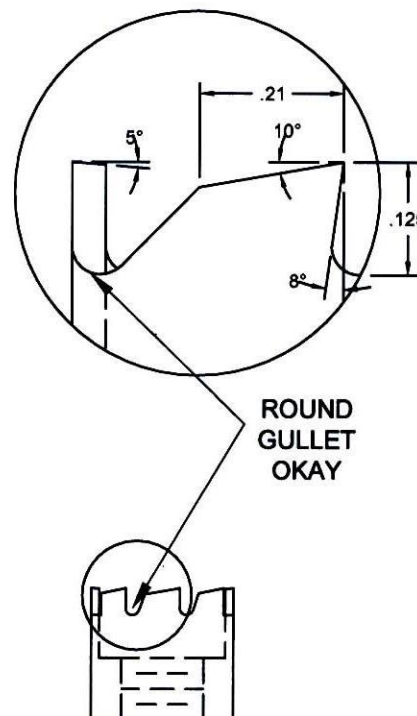
REVISIONS			
REV	DESCRIPTION	DATE	INITIAL / APPROVED
1	-7 RADIAL ANGLE INCREASED FROM 2° TO 5° TO IMPROVE OPERATION.	2/19/04	
3	CH'D -7 PREGRIND TOLERANCE FROM .940 +.005 -.002.	1/2/08	WP G.E.
4	ADDED AN 8° HOOK TO CUTTING TEETH, WAS STRAIGHT WITH NO HOOK.	1/29/08	WP DW



-7

CUTTER
8 TEETH
HEAT TREAT: 50-60 Rc
NO OXIDE COATING

MACHINE TO .953^{+.005}/_{-.000}
GRIND TO SIZE
AFTER HEAT TREAT



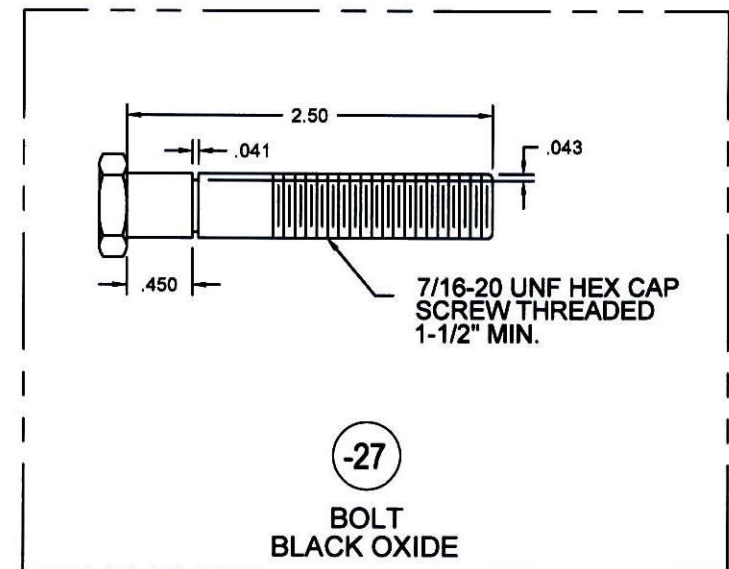
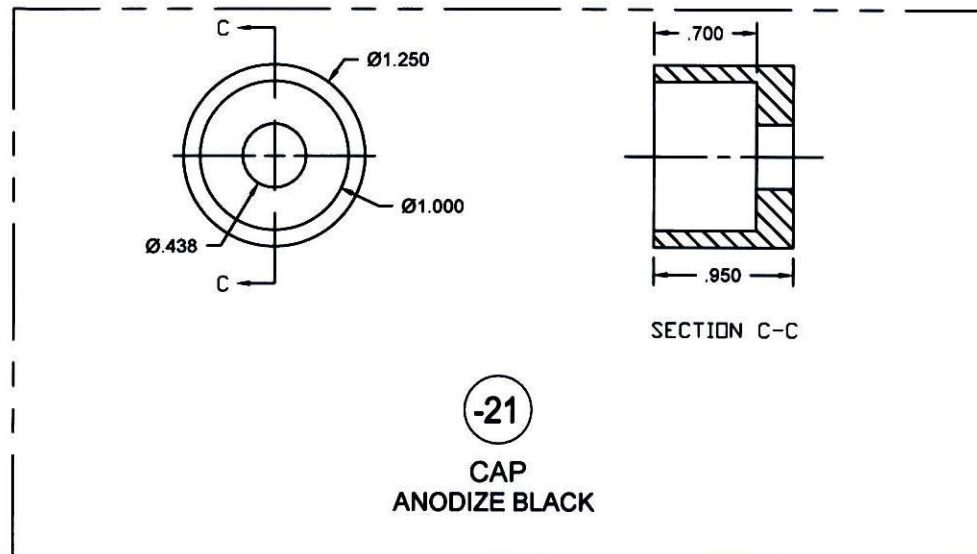
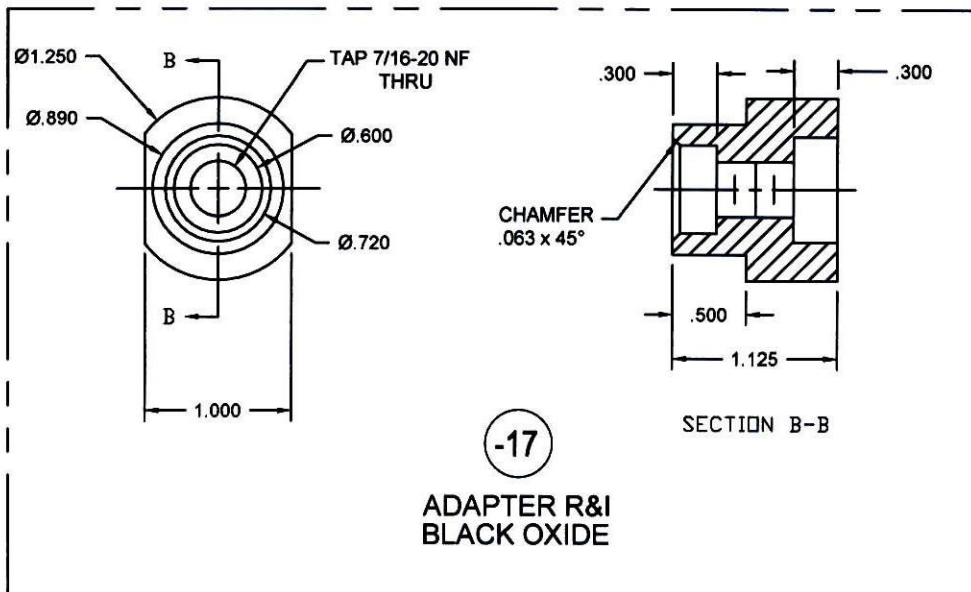
-9

SPRING GUIDE
BLACK OXIDE

RED BARN MACHINE TITLE BEARING CUTTER		REV 4A
		DWG NO. RB877206-18-7 & -9
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: DECIMALS .XXX ± .005 FRACTIONS ± 1/32 ANGLES ± 5° .XX ± .01 .X ± .1		DRAWN BY: COLE APPROVED: HEAT TREAT SEE PART FINISH SPEC SEE PART USED ON MODEL BELL
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING		
SCALE NTS	DATE 6-28-01	SHEET 3 of 4

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REVISIONS			
REV	DESCRIPTION	DATE	INITIAL APPROVED
2	CH'D -27 GROOVE FOR RETAINING RING.	9/21/06	



RED BARN MACHINE	
TITLE BEARING CUTTER	
DWG NO. RB877206-18-17 thru -27	REV 4A
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
TOLERANCES ON:	DRAWN BY: COLE
DECIMALS .XXX ± .005	APPROVED
XX ± .01	HEAT TREAT
X ± .1	FINISH SPEC SEE PART
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	USED ON MODEL BELL
SCALE NTS	DATE 6-28-01 SHEET 4 of 4

REVISIONS				
REV	DESCRIPTION	DATE	INITIAL	APPROVE
--	--	--	--	--

ASSY QTY	BO	PART #	QTY	DESCRIPTION	MATERIAL	NO INFORMATION OR SPECIFICATIONS	Pg	TITLE
		-1	1	RND	6061	Ø6-1/4 x 3-7/8	2	---
								DWG NO. --- REV
								UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
								TOLERANCES ON
								DECIMALS
								XX ± .005
								XX ± .01 FRACTIONS ± 1/32
								X ANGLES ± 5°
								UNLESS OTHERWISE SPECIFIED
								1. BREAK ALL SHARP EDGES
								Ø1/8 x .40 PR Ø1/8
								2. DIMENSIONAL LIMITS APPLY AFTER PLATING
ASSY #								SCALE NTS DATE 8-15-07 SHEET 1 of 1